rally will not tolerate cod-liver oil; but the lacto-phospate of lime, being extremely palatable, is readily accepted by all young patients, and is, Dr. B. asserts, extremely beneficial.

"In aged persons," says Dr. B., "we not unfrequently meet with an almost complete suspension of all the organic functions, and more especially those of digestion and of the various acts connected therewith. The wine of lacto-phosphate of lime, administered at the end of meals, permits digestion, increases the assimilation of alimentary substances, and awakens muscular energy, which is so often abolished at this time of life.

"This sinking of all the organic functions contributes powerfully to give to all the acute affections of the aged (and of those who resemble the aged by a condition of general exhaustion) a peculiar character of adynamia. In these cases, a febrile state excited by any cause brings on fatally such a movement of denutrition that the patient often dies, notwithstanding the most diligent and appropriate treatment. If, as I believe, it is by acting on the ganglionic nervous system, and by suspending to a certain extent a powerful process of disassimilation, that alcohol has rendered such great services and been so very successful in cases of pneumonia and other acute affections marked by an adynamic character, does it not seem more rational to leave untouched the functions of the nervous system, and seek merely to fulfil an indication so tritely put down by one of England's great clinicians?—feed the fever. And if this position be correct, I think I may safely assert that the lacto-phosphate of lime is, of all substances, the one best calculated to act as an aliment and as an excitant of the nutritive functions, in the numerous cases to which it applies."

In another class of diseases of an adynamic character, viz., typhoid fever and typhus, this remedy, Dr. B. states, has justified his most sanguine expectations. In the last stage of typhoid fever, when the acute phenomena have disappeared, "we are often," says Dr. B., "placed between two alternatives: either the organism, exhausted by its recent struggle for life, remains prostrate, and allows only of an insufficient alimentation, or, the appetite being awakened, the too small quantity of gastric juice does not allow the stomach, still much enfeebled, to digest the food which the patient takes.

"Now, in these cases we find in the lacto-phosphate of lime at once the chemical agent of digestion and the natural excitant of nutrition, which permits us to overcome two formidable evils, and to secure a speedy restoration to the normal condition."

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15. *Antipyretic Action of Quinia and Alcohol.*—BINZ (*Virchow's Archiv,* li.) is inclined to attribute the action of quinia more to its direct effect on the animal fluids than to its nervine action. Some experiments by Naunyn and Quincke, however, appear to have given ground for the idea that it depresses the temperature through the agency of the nervous system. They observed, when the temperature rose after pinching the spinal cord in dogs, that the elevation of temperature could often be counteracted by large doses of quinia. Binz has repeated these experiments with the above-named experimenters, and has observed distinctly in two cases this result. It was observed, in regard to the animals, that, when experimented on, there was great *post-mortem* elevation of temperature and very rapid putrefaction. In those which received quinia these results were almost completely prevented. The negative results often obtained in regard to quinia are, in some cases, to be attributed to the rapid conversion of the substance into the inactive dihydroxylquinia, and in other cases to the fact of its being administered in an insoluble form. Quinia ought to be given in solution. The best form is the hydrochlorate. The above experiments do not yet decide the question whether the action of quinia is dependent upon the nervous system or not. Alcohol seemed to give more precise results. Dogs treated as in the experiments of Naunyn and Quincke received, within an hour and a half or three hours after the operation, about sixty cubic *centimetres* of alcohol diluted with water. In most of the cases, there was a very distinct inhibition of the temperature more marked than with quinia. The *post-mortem* elevation of temperature was almost inappreciable. Alcohol is very rapidly used up in the febrile condition. The action of alcohol

Binz attributes to direct action on the tissue-metamorphosis. A number of facts point to alcohol as being an inhibitor of oxidation in the tissues. From these effects of alcohol, Binz thinks that quinia is more likely a humoral than a nervine agent.—*Brit. Med. Journ.*, May 11, 1872.

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16. *Eucalyptus Globulus as an Antiperiodic.*—Strong evidence has been adduced to prove that the eucalyptus globulus, a native of Tasmania, but now largely cultivated in the south of France, Spain, Algiers, etc., possesses very decided antiperiodic properties. Two years since Dr. Lorinser, of Vienna, published the results of his observations on the treatment of intermittent fever by the tincture of the leaves of this tree, and Bohn was equally successful with it. (See No. of this Journal for April last, p. 518.)

More recently Dr. Joseph Keeler, chief physician of the Austrian Railway Company, has treated with the tincture of eucalyptus 432 patients. (*Brit. Med. Jour.*, May 11, 1871.) Of these, 310 (71.76 per cent.) were perfectly cured, and 122 (28.24) required to be afterwards treated with quinia. Of the 310 patients who were cured, no paroxysm occurred after the first dose in 202; in the remaining 108, there were one or more subsequent paroxysms, which, however, yielded to repeated doses of the medicine. Quinia had been given without result in 118 of the 432 cases; 293 of the patients had had ague in previous years, and 139 were attacked for the first time in 1871. Of the 122 cases in which the eucalyptus failed, 58 recovered under the use of quinia, 38 were not cured, 10 were sent home, and 16 remained under treatment. Of the 118 cases in which quinia had been given unsuccessfully, 91 recovered under the use of eucalyptus, and in 27 no result followed.

The several types of intermittent fever were represented as follows: quotidian, complicated, 117, simple 73=190; tertian, complicated, 126, simple 95=221; quartan, complicated 16, simple 4=20; quintan, complicated, 1. The complications were, enlargement of the spleen or liver, anæmia or chronic gastric catarrh, paludal cachexia, etc. The remedy was successful in 161 of the 260 complicated cases, or 61.9 per cent.; and in 149 (or 86.6 per cent.) of the 172 simple cases. The percentages of success in the various types were: in tertian, 75.57; in quartan, 70; in quotidian, 67.89. Among the cases in which the first dose of eucalyptus arrested the disease, were 95 complicated and 107 simple; 28 of the former and 20 of the latter had previously been treated unsuccessfully with quinia. In the cases where the paroxysms recurred, there were 70 complicated and 58 simple; quinia had been given without success in 27 of the former and in 15 of the latter.

Of the 432 patients, 353 were men, 46 women, and 33 children. There were 155 patients who were immigrants into the localities; and in these the disease was more frequently attended with complications, and the treatment was less successful, than among the indigenous inhabitants.

The treatment was generally commenced on the fifth day after the first paroxysm of ague; its duration averaged 9½ days, that with quinia in previous years having been 12½ days.

The tincture was made by dividing into small pieces the leaves of eucalyptus obtained through France from the native country of the plant, and macerating in alcohol for three months. Ten pounds of the leaves yielded twenty-five quarts of the tincture. The average dose was two drachms; and the average quantity used for each patient was seven drachms—this, however, varied much, according to the nature of the case and its complications.

Dr. Keller concludes that eucalyptus must be regarded as a very important remedy for ague; but that the plant as cultivated in Austria is less efficacious, than that imported from its native soil; that the remedy is of service especially in obstinate cases of ague where quinia has been given unsuccessfully; and that the average duration of treatment by eucalyptus is shorter than that by quinia. He believes that the tincture is the most eligible preparation of the plant, as the essential oil is retained. The cost of a quart of the tincture he calculates to be less than two florins. It has a pleasant aromatic flavour. For women and children, some simple or orange syrup may be added. In the milder cases, two or three teaspoonfuls, taken before the expected paroxysm, are generally suffi-